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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,231	11/20/2003	Kaoru Kumagai	1715317	9918
24240	7590	02/07/2005	EXAMINER	
CHAPMAN AND CUTLER 111 WEST MONROE STREET CHICAGO, IL 60603			SMITH, RICHARD A	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/718,231

Applicant(s)

KUMAGAI ET AL.

Examiner

R. Alexander Smith

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2 and 4-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-7 is/are rejected.
- 7) ☒ Claim(s) 2 and 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20041001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1, 2 and 4-7 are objected to because of the following informalities:

Claim 1: ", having said light receiving optical axis" toward the end of the claim is confusing because it is not clear as to which limitation is its antecedent, i.e., the area of the image sensor, the first light receiving area or the reflection light image.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

Art Unit: 2859

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claim 1 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 4,713,533 to Bremer et al. in view of U.S. 5,313,409 to Wiklund et al.

Bremer discloses an automatic tracking apparatus (figures 5-14) for a reflector comprising (1); an illumination portion (8) for illuminating a measurement light toward a reflector (10); a light receiving portion (23) and which has an image sensor (e.g. figure 8) for receiving a reflection light image of the measurement light illuminated toward said reflector; arithmetic means (31) for calculating a position of the reflection light image from said reflector in an area of said image sensor; and a rotation mechanism (gimbals 34 and figure 9) for rotating said apparatus so as to position said reflector on a light receiving optical axis of said light receiving portion based on the position obtained by said arithmetic means, wherein the area of the image sensor is provided with a first light receiving area (A-D) which is set to be larger than the reflection light image (e.g. 27 of figure 7), having said light receiving optical axis as a center, and a second light receiving area (E-L and/or M-T) surrounding the first light receiving area, the arithmetic means has a storing portion for storing a position of the reflection light image and a position of a light image other than said reflection light image and discloses that the means can distinguish between images (targets) for either the second (coarse) or first (fine) receiving area and is capable of recognizing the reflection light image (column 13, lines 2-6) from other images based on position and their size and shape, i.e., geometry (starts column 12, line 47 and continues to column 19, line 49) and selecting which image to track by its position (column 19, lines 9-27).

Art Unit: 2859

Bremer does not disclose the automatic tracking apparatus comprising a surveying machine body wherein said illumination portion, said light receiving portion, said arithmetic means, and said rotation mechanism are part of a surveying machine body and the limitations of claim 5.

Wiklund et al. discloses an automatic tracking apparatus having an illumination portion, a light receiving portion, an arithmetic means, and a rotation mechanism which are part of a surveying machine body in order to assist the user in performing geodetic surveys. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the automatic tracking apparatus, taught by Bremer, into a survey machine body, as suggested by Wiklund et al., in order to help a surveyor in measuring distances and angles and to assist in maintaining a lock on a survey target as it is moved to different locations.

With respect to claim 5: Bremer discloses that (column 14, lines 7-68) for the second light receiving area, the rate of rotation and the scanning time is monitored from image detection to image detection to verify measurements, and this is done based on clock cycles, time periods, and angular locations. Therefore with respect to the limitations of claim 5, i.e., a range of said second light receiving area is set within a range of rotation angle in a horizontal direction and a rotation angle in a vertical direction rotated by said rotation mechanism within a scanning time for one field of said image sensor: This range and rotation within a scanning time for one field is only considered to be the optimum values of the clock cycles, time periods and angular locations, as suggested by Bremer, that a person having ordinary skill in the art would have been able to determine using routine experimentation based, among other things, on assuring that the image detected is the desired image and not a spurious image.

Allowable Subject Matter

4. Claims 2 and 4 would be allowable if rewritten to overcome the claim objections set forth in this Office Action and to include all of the limitations of the base claim and any intervening claims.

5. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Response to Arguments

6. Applicant's arguments submitted on December 16, 2004 with respect to claims 1 and 5-7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. Alexander Smith whose telephone number is 571-272-2251. The examiner can normally be reached on Monday through Friday from 9:30-6:00.

Art Unit: 2859

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'R. Alexander Smith', with a large, stylized initial 'R' and a long horizontal stroke extending to the right.

R. Alexander Smith
Patent Examiner
Technology Center 2800

RAS
February 3, 2005